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| 09/525,090 | 03/14/2000 | Walid Ahmed | 12-12-11-9-26 | 9116 |

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EXAMINER

PHAM, BRENDA H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2664

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/525,090

Applicant(s)

AHMED ET AL.

Examiner

Brenda Pham

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-15, 17, 18 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-13, 15, 21, 24, 25-26 is/are rejected.
- 7) ☒ Claim(s) 14, 17, 18, 22, 23, 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 12-28 are pending in the application. Claims 16 and 19 have been canceled. Claims 20-28 are newly added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12, 15, 20-21 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahul Jain, Anuj Puri and Raja Sengupta Department of EECS, University of California, Berkeley, "Geographical Routing Using Partial Information for Wireless Ad Hoc Networks", herein after refer to as Jain.

Claims 12, 15, 20-1 and 25-26, Jain discloses a method for use in a node of a network comprising: storing location information of other nodes of the network, wherein said location information comprises a global position represented by at least two coordinates, exchanging the stored location information with adjacent nodes of the network (see abstract, "the routing table at a node S is a list $\{(P_i, S_i)\}$ where p_i is a geographical position and S_i is a neighbor of node S. When node S receives a packet for node D at position $pos(D)$, it finds the P_i in its routing table which is closest to $pos(D)$ and forward the packet to the neighbor S_i ".

Jain further teaches wherein said node stores a local topology having at least one other node with a continually changing position, and said node stores said location information of

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other nodes within and outside of said local topology (see figure 6 and 7). Note that an ad-hoc network is a wireless network that comprises collection nodes whose positions are continually changing.

Jain does not teach a global positioning system receiver for determining location information of node. This claimed limitation is well known in the art and is admitted by Applicant on page 5 of the specification {It is assumed that each node further comprises global positioning system (GPS) equipment (not shown in FIG. 1), as known in the art, for determining its own location (in two dimensions) on the globe}.

Therefore, it would have been obvious to those having ordinary skill in the art at the time of the invention was made to implement a global positioning system (GPS) equipment in Jain for determining its own location.

Claim 13, Jain further teach the method of claim 12, wherein said node uses a geometry-based routing protocol to transmit said location information to nodes outside of said local topology (see figure 5 of page 7).

Allowable Subject Matter

4. Claims 14, 17-18, 22-23 and 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art made of record does not teach the method of claim 13, wherein said node determines a

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distance from a destination node outside of said local topology to nodes in said local topology using said geometry-based routing protocol and said location information is identity the closest node in said local topology for routing to said destination node.

The prior art fails to teach in combination the method of claim 12, said local topology of said node being nodes located within a predetermined number of hops from said node.

The prior art fails to teach the method of claim 21 and 27, wherein the step of collecting global position information further comprises the step of selecting nodes for said point-to-point links as a function of said global position information.

The prior art fails to teach the method of claims 20 and 28, wherein said information about said location of said direct neighbors further includes information indicating an age of the location information at least some of the nodes of the network.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (571) 272-3134.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

June 21, 2005

Brenda Pham

Brenda A. Pham